

Remarks

Claims 1-40 were pending in the application. Claims 1-9 and 23-34 were withdrawn from consideration, by way of a Response to a Restriction Requirement, mailed December 5, 2005. Claim 38 is canceled and claim 41 is added. With submission of this Response and amendments, claims 10-22, 35-37, and 39-41 will remain pending.

Claim 37 is objected to due to informalities. Claim 37 is amended herein to address the objection. Applicants respectfully request withdrawal of the objection. Claim 39 is rejected under 35 USC §12, due to a lack of antecedent basis for a limitation. Amended claim 39 has been amended in a way that renders this objection moot. Withdrawal of this objection is also respectfully requested.

Claims 10-17, 19, 20, 22, and 35-40 are rejected either under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,428,293 (Sinclair '293) or under 35 USC §103(a), as being unpatentable over Sinclair in view of U.S. Patent No. 6,100,696 (Sinclair '696) and/or U.S. Patent No. 4,949,045 (Clark '045). Applicants respectfully traverse each of these rejections.

Applicants appreciate the Examiner's indication that each of claims 18 and 21 contains patentable subject matter, and may be allowable if rewritten in independent form to include all limitations of the base claim and any intervening claims.

Original claim 10 recited a resistivity logging tool having, among other elements, a shield disposed on the tubular to cover the lateral resistivity sensor and adapted "to prevent electric current flow in the shield in a direction parallel to longitudinal axis of the tubular..." Claim 10 is rejected as being anticipated by Sinclair '293. As reported in the Office Action, Sinclair '293 mentions coil shaped sensors that include "shielded axial coils." It does not teach or suggest, however, a shield that is adapted "to prevent electric current flow in a direction parallel to the longitudinal axis of the tubular..." Applicants acknowledge that shields are known and that sensors may be electrically sealed. Sinclair '293 does not teach, however, how to modify any known shield or any known sensor seal construction so as to "prevent electric current flow in the shield" as recited in Claim 10.

To facilitate the present examination, Applicants have amended claim 10 to further highlight the Applicants' contribution to the art. This amendment should not be construed as an admission by Applicants that the claims, prior to the amendment, were not novel nor non-obvious in view of the cited prior art. Amended Claim 10 recites a resistivity logging tool having, among

other elements, the following:

a shield disposed on the tubular to cover the lateral resistivity sensor; and

an insulating mechanism including a circumferential gap, the circumferential gap extending continuously about the tubular to prevent electric current flow in the shield in a direction parallel to the longitudinal axis of the tubular near the lateral resistivity sensor.

Sinclair '293 clearly does not teach or suggest an insulating mechanism including the circumferential gap, as recited in amended claim 10.

The Clark '045 reference is also cited as providing part of the basis of several §103 rejections. Specifically, Clark '045 is cited as disclosing a shield that is a conductive metal cylinder with slots in the axial direction and the slots are filled with rubber (col. 22, lns. 42-45). This reference does not provide any more description or drawing of such a shield or axial slots. Clark '045 actually refers the reader to U.S. Patent No. 4,536,714 ("Clark '714") for a further explanation of the shield. The Clark '714 patent (which, in fact, names the same Clark (in respect to Clark '045) as the first named inventor) is submitted in an accompanying Information Disclosure Statement for use in the present examination. A quick study of the front page and FIG. 3 of Clark '714 reveals a shield divided into several pie sections. The pie sections appear to create *longitudinally extending* slots 250 that extend the entire length of the shield along the longitudinal direction. These slots do not (1) extend continuously about the tubular; (2) provide a circumferential gap; or (3) prevent electric current flow in the shield in a direction parallel to the longitudinal axis of the tubular. These slots are, therefore, structurally and functionally different from the insulating mechanism or circumferential gap recited in amended claim 10.

Moreover, none of the other cited references (Sinclair '293, Sinclair '696, or Clark '714) teaches or suggests an insulating mechanism or circumferential gap having the above-listed structural or functional features. Thus, any combination of these references will fail to produce one or more of the elements of claim 10.

Accordingly, independent claim 10 and claims 11-22 and 41, each of which depends from claim 10, are patentable over the cited prior art references.

Amended independent claim 35 recites a method for building a resistivity tool using an elongated tubular comprising, among other steps, the following:

positioning a shield assembly on the tubular to cover the lateral resistivity sensor; and
extending a circumferential gap continuously about the tubular and electrically between the shield assembly and the tubular, thereby preventing electric current to flow along the shield in a direction parallel to the longitudinal axis of the tubular near the lateral resistivity sensor..

For one or more of the same reasons set forth above in respect to claim 10, claim 35 is also patentable over the cited prior art references. Furthermore, claims 36-37, and 39-40, each of which depends from claim 35, are also patentable over the cited prior art references.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance.

No fee is believed to be due at this time. If the appropriate Petition for an Extension of Time is not attached hereto (or any other Petition required of the application), this statement shall serve as Applicants' Petition to the U.S.P.T.O. The Commissioner is hereby authorized to charge any additional fees or credit any overpayments related to this response to Deposit Account No. 190610.

The undersigned is available for consultation at any time, if the Examiner believes such consultation may expedite the resolution of any issues.

Respectfully submitted,

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